Federal Communications Commission
Office of Engineering and Technology
Laboratory Division

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HEARING AID COMPATIBILITY

Frequently Asked Questions

Q1. Because over-the-top (OTT) – voice services operating over IP – are applications that can be installed on a wireless handset by the manufacturer, service provider, or end-user, what is the manufacturer's responsibility for testing for HAC compliance?

A1. Considering the following five conditions for voice services (including OTT or any other voice service):

a. Pre-installed (installed and delivered) by the manufacturer.

b. Pre-installed (installed and delivered) by the manufacturer for the operating system manufacturer's software partner.

c. Installed and delivered by the manufacturer at the direction of the service provider.

d. Service provider installed (post–installed by the service provider after delivery from the manufacturer).

e. Installed by the end-user after purchase.

For items (a) through (c), it is the responsibility of the manufacturer to test the handset that is reported to the FCC Wireless Telecommunications Bureau (WTB) as HAC compliant.

For item (d), the service provider cannot market or report this as HAC compliant (Section 20.19). Optionally, the service provider can arrange for the manufacturer (grantee) to apply for a Class II Permissive Change to add the service provider's model.

For item (e), testing is not required.

Q2. For the OTT voice applications installed by the service provider (post–installed by the service provider after delivery from the manufacturer), is the service provider required to arrange for the manufacturer to file a Class II Permissive Change, including a HAC test report, if the service provider added OTT voice service to a handset model, even if subscribers are not required to use it?

A2. Section 20.19 requires that if a handset is marketed, sold, and reported as HAC compliant by a service provider, and that handset contains alternative voice services that meet the definition of Section 20.19(a)(1)(i), then all delivered voice services need to have been tested to demonstrate compliance. There is no provision in the rules that permits a service provider to continue to claim that the handset is HAC compliant only for certain voice services and not for others that qualify under Section 20.19(a)(1)(i). The service provider and the manufacturer must cooperate to update the application filing under a Class II Permissive Change application.

Q3. What is the meaning of "voice services or voice applications," and the "specific applications which support voice calling," video, and other communications applications, in terms of those that are not ordinarily used with a device placed next to the ear and devices that are designed to be held to the ear?

A3. The meaning of "all voice services or voice applications" applies to both: (a) voice applications that are used in delivery of a digital mobile service as defined in Section 20.19(a)(1)(i); and (b) handsets as defined in FCC 10-145 item 20, Handsets Covered by the Rule. See Fourth Report and Order (FCC 15-155, Released: November 20, 2015), paras. 40-41).

In most cases the features of a product's design are intuitively obvious when providing an audio output not customarily intended to be held next to the ear versus a design for audio output to be held next to the ear. HAC testing is applicable for any device that has a feature designed to be held to the ear.

Q4. KDB Publication 285076 D01 Appendix B shows example air interfaces table column "Name of Voice Service," is it necessary to identify the non-VoIP modes that need to be listed as well?

A4. No; only voice services that are not defined in ANSI C63.19-2011 need to be identified in this column. For all other services identified in ANSI C63.19-2011, use a single * symbol. Specific listing is not needed because legacy circuit-switched voice services are bound to the air interface in ANSI C63.19-2011 which are identified in the Air Interface column. IP transporter voice services are independent of the air interface, only bound to the IP layer, and therefore the service needs to be identified by name.

Q5. Are OTT IP voice services (e.g., Skype, Google Hangouts, etc.) a VD type air interface for 3G data services (e.g., EDGE, HSPA, EVDO)?

A5. Yes, these are voice services, because EDGE, HSPA, and EVDO are IP packet transporters and as such they can transport IP voice services.

Q6. Does HSPA circuit-switched (CS) voice services over HSPA (CSoHS) need to be tested?

A6. Yes, if the handset has the capability to support VoHSPA or CSoHS, it needs to be tested to demonstrate compliance.

Q7. What is Wi-Fi calling, and what is the reference level that should be used for compliance testing referenced in Appendix B of KDB Publication 285076 D01 and in KDB Publication 285076 D02?

A7. Wi-Fi calling (or cellular-provider Wi-Fi calling) is an advanced calling or roaming feature provided by the licensed mobile-service provider (carrier) originating and terminating calls over their network infrastructure using Wi-Fi as the service drop connection instead of using the licensed service bands. *Wi-Fi calling is not just any voice service operating over Wi-Fi; it is a feature of the mobile service provider's network, for providing the carrier's voice service in areas where there is Wi-Fi coverage (such as in a home)*.

Wi-Fi calling is not defined by ANSI C63.19 and therefore testing shall use a reference level of −20 dBm0 as noted by "**" in reporting per Appendix B of KDB Publication 285076 D01. If ASC C63®-EMC provides an update of the ANSI C63.19 standard or another entity provides a new value, then testing should be performed using that reference level as specified and appropriately noted in the table. Reference levels established by the FCC on a case-by-case basis should be noted with "***" in the table.

Note that for Wi-Fi calling, the M-rating is primarily influenced by the air interface, while T-Coil (T-rating) is primarily influenced by the codec performance.